



In The Application Of
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Title Of The Invention
TOILET FLUID DISPENSER

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BACKGROUND OF THE INVENTION

Field of the Invention:

The present invention relates to a toilet liquid dispenser. More particularly, the present invention relates to a toilet liquid dispenser being able to meter the amount of fluid being dispensed.

Description of the Prior Art:

Numerous innovations for toilet liquid dispenser have been provided in the prior art that are described as follows. Even though these innovations may be suitable for the specific individual purposes to which they address, they differ from the present invention as hereinafter contrasted.

In. U.S. Patent Number, 6,526,599, invented by, Benayahoo, titled, Passive dispenser for dosing and issuing a predetermined amount of dispensable liquid, a dispenser for dispensing metered amount of liquid into a toilet cistern, comprising a basin adapted to receive a metered amount of dispensable liquid received from a container via a discharge spout. An airlock prevents further discharge of liquid above a predetermined amount in the basin when the discharge spout is covered by the dispensable liquid. A siphon inlet is in liquid communication with the metered amount in the basin, and the siphon outlet is in liquid communications with the cistern water at quiescent times. Upon flush, the siphon siphons out the dispensable liquid in the basin, breaking the airlock, and allowing a new metered amount of dispensable liquid to flow to the basin, ready for next flush.

In. U.S. Patent Number, 5,718,006, invented by, Dixon, titled, Fluid dispenser, an apparatus is provided for dispensing fluid into a cistern such as a cistern on a water-closet, toilet or urinal. The apparatus comprises a receptacle (1) to be mounted in position within the cistern (not shown). A pivoted scoop (5) is mounted to move pivotally about trunnions (6). The pivoted scoop (5) is provided with a ladle (7) for collecting fluid (31) from the cistern and a trough (8) for dispensing the fluid (31) collected by the ladle (7) into the cistern. The scoop (5) is also provided with holes (13) for draining fluid (31) from the trough (8) as fluid (31) is collected by the ladle (7). A float (14) is connected to one end of the scoop (5) to cause the scoop (5) to pivot and dispense fluid (31) whenever the cistern is emptied. The float (14) is provided with a first cavity (21) for forming an air pocket in the float (14) and a second cavity (20) which allows water (28) provided in the cistern to enter and weigh down the float (14).

In. U.S. Patent Number, 5,542,605, invented by, Campau, titled, Automatic liquid dispenser, an automatic liquid dispensing apparatus including a container for holding a dispensable liquid, a flow regulator which permits liquid to flow out of the container at a controlled rate which is independent of the quantity of liquid within the

container, and a timing and dispensing assembly. The timing and dispensing assembly accumulates a quantity of the liquid from the flow regulator, and periodically dispenses a constant volume of the liquid.

In. U.S. Patent Number, 5,449,117, invented by, Muderlak, et al., titled, Apparatus and method for controllably dispensing drops of liquid, a drop dispensing device includes a liquid ejection system, such as a timed pump mechanism, and a multi-channeled nozzle cooperative with the ejection system, for directing ejected liquid out of a container and into a chamber external to the container wherein the nozzle further includes drip tabs for forming and directing drops. The chamber is divided into a plurality of cavities and is formed by a plurality of interconnected walls. The chamber is adapted to receive the nozzle and includes a raised drainage orifice for each cavity such that the drainage orifice is operatively coupled to a guide tube for simultaneously guiding draining drops from the chamber to a plurality of selected surfaces.

In. U.S. Patent Number, 5,353,957, invented by, Campau, titled, Apparatus and method for controlled dispensing of a liquid, an apparatus and method are disclosed for dispensing a first liquid into a second reservoir liquid. The apparatus comprises a container adapted to hold the dispensable liquid, a dispensing nozzle and a sensing tube. The dispensing nozzle is positioned on the container below the dispensable liquid level within the container. The sensing tube has first and second open ends, the first open end positioned above the dispensable liquid level within the container and the second open end positioned outside the container and below the dispensing nozzle. The second open end of the sensing tube is immersible in the reservoir liquid, whereby the cyclic fall and rise of the reservoir liquid results in the controlled discharge of the dispensable liquid from the container through the dispensing nozzle. The method comprises the steps of providing a container as described above, locating the container above the reservoir liquid, and causing the reservoir liquid to rise and fall to discharge the dispensable liquid from the dispensing nozzle.

In. U.S. Patent Number, 5,295,274, invented by, Daniels, et al., titled, Liquid dispensing apparatus, Liquid dispensing apparatus includes a tank for storing liquid to be dispensed, a fill line communicating with an interior of the tank and adapted to be coupled to a source of the liquid, a heating element for heating the liquid, a heating

control device for controlling the heating element to heat the liquid to a predetermined temperature, a dispensing device for dispensing liquid from the tank under pressure and a dispensing control device for selectively controlling the dispensing of the liquid by the dispensing device. The fill line is adapted to be connected to existing plumbing, such as a toilet water supply line behind a wall adjacent the toilet. The tank is adapted to be housed in a recessed wall cabinet adjacent the toilet so that the entire apparatus is hidden from view when not in use. The tank includes a sump portion defining a lowermost portion of the tank, to facilitate complete evacuation of liquid from the tank. An electrically operable pump is preferably located at the bottom of the sump portion for discharging liquid therefrom. A sight gauge is located on the front of the tank to permit visual observation of the level of liquid in the tank. User-operable switches are provided to allow a user to manually control the pump and the heating element. A thermostat is provided for automatic control, of the heating element.

In. U.S. Patent Number, 4,251,012, invented by, Owens, et al., titled, Passive liquid dosing dispenser, a passive dosing dispenser for issuing, for example, a predetermined volume of a liquid toilet tank additive solution into a toilet tank as the water is draining therefrom while the toilet is flushing. The dispenser employs no moving parts, and acts in response to the lowering of the water level in the toilet tank

to dispense the liquid solution at a point in the flush cycle when it can be most effectively utilized. The liquid solution in the dispenser is maintained in an isolated condition by means of airlocks from the toilet tank water surrounding the dispenser regardless of the depth to which the dispenser is immersed in the tank during quiescent periods intermediate flush cycles.

In. U.S. Patent Number, 4,017,393, invented by, Foggett, titled, Apparatus for dispensing a liquid, an apparatus for dosing a treatment solution into a waste liquid comprises a device for measuring and dispensing a predetermined volume of solution, means for delivering treatment solution to and from the device and control means adapted to determine when waste liquid is present to be dosed and activate the device to dispense a measured volume of treatment solution into a waste liquid. The device has a container with an inlet and outlet diaphragm valve, and an air vent means for venting the chamber during filling and dispensing of treatment solution. Reversible actuation means is provided for simultaneously opening the inlet valve and closing the outlet valve to permit filling of the chamber with a treatment solution and for simultaneously closing the inlet valve and opening the outlet valve to permit dispensing of the measured volume of treatment solution. The control means operates the reversible actuation means to dispense treatment solution into the waste liquid and

is adapted to close the outlet valve and open the inlet valve in the absence of waste liquid to be dosed.

In. U.S. Patent Number, 3,945,060, invented by, Gargione, titled, Liquid dispensing bottle-hanger construction, a liquid dispensing bottle has a mounting clip for hanging the bottle in an inverted position within a flush tank of a toilet for automatically dispensing a predetermined amount of liquid during each flushing operation. A circular boss is formed on the bottom wall of the bottle and the clip is rotatably mounted thereon for movement between stored and hanging positions. The clip has a pair of arcuate fingers which circumferentially, slidably engage the boss, and an L-shaped member a portion of which extends upwardly along a protuberance formed in a lower portion of the bottle side wall when in a stored position. The L-shaped member forms a channel or hook with the side wall of the bottle when the clip is rotated 90.degree. from stored to hanging position and the top edge of the flush tank is engaged by the L-shaped member to hang the bottle thereon. A plurality of ribs are formed on the clip bottom surface to provide a flat, horizontal, three point support for displaying and storing the bottle in a stable upright position.

The present invention has overcome Guerin's U.S. Patent (5,778,459) and

other purported toilet devices but more so than the coincidental similarities of Guerin's device. The present invention relies solely on its flexible filler bag containing disinfectant fluid which is dependent and reliant on water pressure being exerted within a toilet tank. The precipitous rise of water into a toilet tank through its normal means releases the fluid from the flexible filler bag through the elongated flexible hose (22) reverted into the ensconced pipe (20). As pressure surmounts, the connector pipe (14) attached to an adjustable holder (16) moves upward, connecting to the inlet pipe (20). The angle hosing (12D) of the top inner chamber pipe (12) places & pushes pressurized disinfectant solution into the bottom inner chamber pipe (12B), thus releasing the filler disinfectant solution into the entire tank.

The antithesis of Guerin's device is that tablets dissolve, reliant on other actions to take place before such an occurrence. First, as water must enter thoroughly through a pipe (38) into a special chamber (44) collecting water by funneling (48), thus squeezed into an inlet opening of the inner chamber (44) of the chemical injection device (30). The debris of the tablet then will speculatively flow easily into a sponge (58). As debris of the tablet manifest into this small confined area (58) a suction pipe (62) siphons (64) the dissolved tablet into the pipe (38) through its horizontal pipe.

Guerin's functionality of his components are dissimilar in its purpose.

Although similar names are given such names are widely used in describing other appurtenances within other industries. For our purposes, the functionality is the differential determinant in the likelihood of similar actions. Our present invention has a connector pipe by name but has dissimilar multiplicand functions to Guerin's Patent. Guerin's connector pipe functions in multi-fashion: to allow water to filter into a dependant chambers, siphon and then exist through the same pipe. The present invention takes a aberrant approach by serving only to carry through the disinfectant to the tank which shows less dependency on Guerin's nomenclatured actions. The present invention's egress pipe (32) plays a similar role as do all egress pipes, to allow the exit of materials, whatsoever they may be. It is customary in many industries and trades to allow egress piping and fasteners for connective purposes for funneling materials in an out of areas of concern. In the present invention the egress pipe is singularly dependent on its filler bag hose (22) to allow the fluid to pass through its connector pipe (14) and egress pipe commonly shown as Guerin's horizontal pipe. Guerin's egress pipe is wholly dependent upon water funneling through its egress pipe and its suction pipe (62) for dispersing of disinfectant into the water compartment of the toilet tank. It is also customary in the toilet disinfectant business also known as vertical economies of scale to have similar business manufacturing practices which for clarity purposes of this particular patent discussion, fasteners for all various kinds of

toilet disinfectants. It is common and useful knowledge in its construction to have small disinfectant tubes manufactured by the many household giants to contain fasteners or clips for ease of attachment to the rim of a bowl or inner tank.

Numerous innovations for toilet liquid dispenser have been provided in the prior art that are adapted to be used. Even though these innovations may be suitable for the specific individual purposes to which they address, they would not be suitable for the purposes of the present invention as heretofore described.

SUMMARY OF THE INVENTION

The present invention relates to a toilet liquid dispenser. More particularly, the present invention relates to a toilet liquid dispenser being able to meter the amount of fluid being dispensed.

The types of problems encountered in the prior art are toilet cleaning methods usually include tablets which do not dispense an exact amount of cleaning fluid into the toilet tank.

In the prior art, unsuccessful attempts to solve this problem were attempted namely: using tablets and other liquid dispensers. However, the problem was solved

by the present invention because the fluid is dispensed in metered amounts that are adjustable.

Innovations within the prior art are rapidly being exploited in the field of toilet hygiene.

The present invention went contrary to the teaching of the art which describes and claims tablets and liquid dispensers.

The present invention solved a long felt need for a liquid dispensing device that is capable of dispensing a set metered amount of fluid.

Accordingly, it is an object of the present invention to provide a toilet liquid dispenser having a egress pipe, connector pipe, holder, reservoir, inlet pipe, and container.

More particularly, it is an object of the present invention to provide the egress

pipe having an egress pipe fastener and egress pipe end.

In keeping with these objects, and with others which will become apparent hereinafter, one feature of the present invention resides, briefly stated, in the egress pipe end having a forty-five degree angle cut first egress pipe end or ninety degree bent angle second egress pipe end.

When the container is designed in accordance with the present invention, it has a container fastener.

The novel features which are considered characteristic for the invention are set forth in the appended claims. The invention itself, however, both as to its construction and its method of operation, together with additional objects and advantages thereof, will be best understood from the following description of the specific embodiments when read and understood in connection with the accompanying drawings.

**LIST OF REFERENCE NUMERALS
UTILIZED IN THE DRAWINGS**

10 - toilet liquid dispenser (10)

12 - egress pipe (12)

12A - egress pipe top (12A)

12B - egress pipe bottom (12B)

12C - egress pipe coupling (12C)

12E - egress pipe fastener (12E)

12D - egress pipe end (12D)

112B - first egress pipe end (112B)

212B - second egress pipe end (212B)

14 - connector pipe (14)

16 - holder (16)

18 - reservoir (18)

20 - inlet pipe (20)

22 - hose (22)

24 - filler bag (24)

24A - latching device (24A)

26 - flush tube (26)

BRIEF DESCRIPTION OF THE DRAWINGS

- FIGURE 1** is a top perspective view of a toilet liquid dispenser (10).
- FIGURE 2** is a top perspective view of a toilet liquid dispenser (10).
- FIGURE 3** is a side view of a toilet liquid dispenser (10).
- FIGURE 4** is a side view of a first egress pipe end (112B).
- FIGURE 5** is a side view of a second egress pipe end (212B).

DESCRIPTION OF THE PREFERRED EMBODIMENT

Referring to **FIGURE 1**, **FIGURE 2** and **FIGURE 3** which are top perspective views and a side view, respectively, of a toilet liquid dispenser (10) comprising an egress pipe (12) extending downwardly positioned with a flush tube (26).

The toilet liquid dispenser (10) further comprises a connector pipe (14) sealably connected at a first end to a top distal end of the egress pipe (12). A second end of the connector pipe (14) extends downwardly into a reservoir (18). The egress pipe (12) further comprises an egress pipe fastener (12E) securely attached thereto. The egress pipe fastener (12E) functions to securely attach the egress pipe (12) to the flush tube (26). wherein the egress pipe (12) preferably comprises an egress pipe bottom (12B) slidably and sealably insertable into an egress pipe top (12A) functioning to allow adjustment of different toilet tank heights. The egress pipe (12) may optionally further comprise an egress pipe coupling (12C) positioned between the egress pipe bottom (12B) and the egress pipe top (12A) functioning to allow adjustment of different toilet tank heights. The egress pipe coupling (12C) functions as a sealing means therebetween.

The toilet liquid dispenser (10) further comprises an inlet pipe (20) is slidably positioned with a bottom opening of the reservoir (18) and sealably connected thereto. The inlet pipe (20) functions to transfer the fluid contained in the reservoir (18) into the egress pipe (12) which is then dispensed into the toilet through the flush tube (26). By sliding the inlet pipe (20) upwardly (i.e. more pipe exposed) or downwardly (i.e. less pipe exposed) within the reservoir (18) allows more or less fluid to be dispensed therein and ultimately into the toilet.

The reservoir (18) further comprises a holder (16) attached to an inside wall thereof. The second end of the connector pipe (14) is positioned within the holder (16). The holder (16) functions to secure the reservoir (18) in position connected to the connector pipe (14).

The toilet liquid dispenser (10) further comprises a filler bag (24) having toilet cleaning fluid therein is connected to a bottom distal end of the inlet pipe (20) by a hose (22). The filler bag (24) is a container because the specific water pressure exerted thereon maintains the level of the fluid in the bag at the water level within a toilet tank as well as forcing the fluid through the hose (22) into the reservoir (18). The filler bag (24) further comprises a latching device (24A) securely attached thereto.

Referring to **FIGURE 4** which is a side view of a first egress pipe end (112B) having an approximate forty-five degree angle cut.

Lastly referring to **FIGURE 5** which is a side view of a second egress pipe end (212B). The egress pipe end (12D) is a second egress pipe end (212B) having an approximate ninety degree bend. The angled cut or bend creates increased vacuum pressure and concurrently the fluid is dispensed from the reservoir (18) at a faster rate.

It will be understood that each of the elements described above, or two or more together, may also find a useful application in other types of constructions differing from the type described above.

While the invention has been illustrated and described as embodied in a toilet liquid dispenser, it is not intended to be limited to the details shown, since it will be understood that various omissions, modifications, substitutions and changes in the forms and details of the device illustrated and in its operation can be made by those skilled in the art without departing in any way from the spirit of the present invention.

Without further analysis, the foregoing will so fully reveal the gist of the present invention that others can, by applying current knowledge, readily adapt it for various applications without omitting features that, from the standpoint of prior art, fairly constitute essential characteristics of the generic or specific aspects of this invention.

What is claimed as new and desired to be protected by Letters Patent is set forth in the appended claims.